UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,515	07/25/2002	Michael A. Lloyd	24717/717	6824

28960 7590 02/08/2007
HAVERSTOCK & OWENS LLP
162 NORTH WOLFE ROAD
SUNNYVALE, CA 94086

EXAMINER	
HO, CHUONG T	
ART UNIT	PAPER NUMBER
2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/070,515	LLOYD ET AL.	
	Examiner	Art Unit	
	CHUONG T. HO	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/30/06*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-79* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-70 and 72-79* is/are rejected.

7)☒ Claim(s) *71* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The amendment filed 11/22/06 have been entered and made of record.

2. Claims 1-74, 75, 76-77, 78-79 are pending.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims, 1-5, 7-48, 49-70, 72-74, 75, 76-77, 78-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz (U.S.Patent No. 6,839,751 B1) in view of Gaddis et al. (U.S. 2005/0201320 A1).

In the claim 1, Dietz discloses a system of optimizing traffic in an network (see abstract, optimize network traffic flow, the system comprising:
Selecting a subset of flows in the internetwork for monitoring, wherein the subset of flows includes one of one flow, some flows, and all flows; measuring performance characteristics of the subset of flows in at least a portion of the internetwork, the performance characteristic including one or more of: a plurality of one or more routing trip measurements (col.4, lines 15-30, the statistical measures are used to determine metrics related to the flow) (col. 17, lines 55-60, lines 40-45, timestamps) for each of the subset of flow and a plurality of one or more one-way measurement for each of the subset of flows, the measuring performance characteristics including one or more of: launching a first plurality of one or more packets, and measuring the first plurality of one

or more packets (col.4, lines 15-30, quality or service metrics, col. 8, lines 53-55, col. 7, lines 60-62);

Measuring a second plurality of one or more packets in the internetwork, wherein the second plurality of one or more packet were already launched;

Monitoring a first plurality of one or more flows in the internetwork, duplicating one or more packets from the plurality of one or more flows, and measuring the one or more duplicated packets;

Serving as a proxy hop for a second plurality of one or more flows, and measuring the second plurality of one or more flows; and

Encoding material within a third plurality of one or more flows, causing a fourth plurality of one or more flows to be generated, wherein the third plurality of one or more flows traverses a first path of the internetwork, and the fourth plurality of one or more flows traverse a second path of the internetwork, wherein at least a portion of the first path of the internetwork and at least a portion of the second path of the internetwork are equal, and measuring a subset of the fourth plurality of one or more flows;

Calculating at least one performance metric (measuring round trip time) for the subset of flows in the at least a portion of the internetwork, the at least one performance at least partly determined from the measured performance characteristics (The metrics reporting process provides data that can be used to calculate useful statistical measurements. In one embodiment, the metrics reporting process is part of the state processing that is carried out from time to time according to the state, and in another embodiment, the metrics reporting process carried out from time to time by a

microprocessor having access to flow records. Preferably, the metrics reporting process provides base metrics and the final QOS metrics calculations are carried out by the host computer 1504. In addition to keeping the real time state processing simple, the partitioning of the tasks in this way provides metrics that are scalable. For example, the base metrics from two intervals may be combined to metrics for larger intervals).

However, Dietz is silent to disclosing in response to calculating the at least one performance metric, rearchitecting the internetwork to optimize one or more of the least one performance metric, rearchitecting the internetwork including at least one of:

Altering a plurality of one or more routing tables in the internetwork, wherein the plurality of one or more routing tables including at least one of: network-layer routing tables, layer 3 routing tables, IP routing tables, layer 2 forwarding table, and MPLS forwarding tables;

Redirecting the subset of flows to a second internetwork coupled to the internetwork at one or more Points of Presence (PoP); and

Affecting forwarding decisions of the subset of flows, by imposing one or more of: NAT, GRE, and tunneling techniques other than GRE.

Gaddis et al. disclose calculating ([0070], calculating) at least one performance metric for the subset of flows (traffic flows) in the at least a portion of the internetwork, the at least one performance at least partly determined from the measured performance characteristics ([0071] [0072]).; comprising:

in response to calculating the at least one performance metric, rearchitecting the internetwork to optimize one or more of the least one performance metric, rearchitecting the internetwork including at least one of:

Altering a plurality of one or more routing tables ([0056], [0059], routing table, [0070], [0071], [0072]) in the internetwork, wherein the plurality of one or more routing tables including at least one of: network-layer routing tables, layer 3 routing tables, IP routing tables, layer 2 forwarding table, and MPLS forwarding tables;

Redirecting the subset of flows to a second internetwork coupled to the internetwork at one or more Points of Presence (PoP); and

Affecting forwarding decisions of the subset of flows, by imposing one or more of: NAT, GRE, and tunneling techniques other than GRE.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Dietz with the teaching of Gaddis to calculate the at least one performance metric, rearchitecting the internetwork to optimize one or more of the least one performance metric, rearchitecting the internetwork including at least one of: Altering a plurality of one or more routing tables in the internetwork, wherein the plurality of one or more routing tables including at least one of: network-layer routing tables, layer 3 routing tables, IP routing tables, layer 2 forwarding table, and MPLS forwarding tables; Redirecting the subset of flows to a second internetwork coupled to the internetwork at one or more Points of Presence (PoP); and affecting forwarding decisions of the subset of flows, by imposing one or more of: NAT, GRE, and tunneling

techniques other than GRE in order to dynamically determine regional address locations for best exit routing based route selection preferencing.

3. In the claim 75, Dietz discloses a system of optimizing traffic in an network (see abstract, optimize network traffic flow, the system comprising:

Selecting a subset of flows in the internetwork for monitoring, wherein the subset of flows includes one of one flow, some flows, and all flows; measuring performance characteristics of the subset of flows in at least a portion of the internetwork, the performance characteristic including one or more of: a plurality of one or more routing trip measurements (col.4, lines 15-30, the statistical measures are used to determine metrics related to the flow) for each of the subset of flow and a plurality of one or more one-way measurement for each of the subset of flows, the measuring performance characteristics including one or more of: launching a first plurality of one or more packets, and measuring the first plurality of one or more packets (col.4, lines 15-30, quality or service metrics, col. 8, lines 53-55, col. 7, lines 60-62);

Measuring a second plurality of one or more packets in the internetwork, wherein the second plurality of one or more packet were already launched;

Monitoring a first plurality of one or more flows in the internetwork, duplicating one or more packets from the plurality of one or more flows, and measuring the one or more duplicated packets;

Serving as a proxy hop for a second plurality of one or more flows, and measuring the second plurality of one or more flows; and

Encoding material within a third plurality of one or more flows, causing a fourth plurality of one or more flows to be generated, wherein the third plurality of one or more flows traverses a first path of the internetwork, and the fourth plurality of one or more flows traverse a second path of the internetwork, wherein at least a portion of the first path of the internetwork and at least a portion of the second path of the internetwork are equal, and measuring a subset of the fourth plurality of one or more flows;
Calculating at least one performance metric (measuring round trip time) for the subset of flows in the at least a portion of the internetwork, the at least one performance at least partly determined from the measured performance characteristics (The metrics reporting process provides data that can be used to calculate useful statistical measurements. In one embodiment, the metrics reporting process is part of the state processing that is carried out from time to time according to the state, and in another embodiment, the metrics reporting process carried out from time to time by a microprocessor having access to flow records. Preferably, the metrics reporting process provides base metrics and the final QOS metrics calculations are carried out by the host computer 1504. In addition to keeping the real time state processing simple, the partitioning of the tasks in this way provides metrics that are scalable. For example, the base metrics from two intervals may be combined to metrics for larger intervals).

However, Dietz is silent to disclosing in response to calculating the at least one performance metric, affecting the routing of the subset of flows by altering a plurality of one or more DNS entries in the internetwork.

Gaddis et al. disclose in response to calculating the at least one performance metric, affecting (updating) the routing of the subset of flows by altering a plurality of one or more DNS entries in the internetwork ([0056], [0059], routing table, [0070], [0071], [0072]).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Dietz with the teaching of Gaddis to calculate the at least one performance metric, affecting the routing of the subset of flows by altering a plurality of one or more DNS entries in the internetwork in order to dynamically determine regional address locations for best exit routing based route selection preferencing.

4. In the claim 76, Dietz discloses a system of optimizing traffic in an network (see abstract, optimize network traffic flow, the system comprising:
Selecting a subset of flows in the internetwork for monitoring, wherein the subset of flows includes one of one flow, some flows, and all flows; measuring performance characteristics of the subset of flows in at least a portion of the internetwork, the performance characteristic including one or more of: a plurality of one or more routing trip measurements (col.4, lines 15-30, the statistical measures are used to determine metrics related to the flow) for each of the subset of flow and a plurality of one or more one-way measurement for each of the subset of flows, the measuring performance characteristics including one or more of: launching a first plurality of one or more packets, and measuring the first plurality of one or more packets (col.4, lines 15-30, quality or service metrics, col. 8, lines 53-55, col. 7, lines 60-62);

Measuring a second plurality of one or more packets in the internetwork, wherein the second plurality of one or more packet were already launched;

Monitoring a first plurality of one or more flows in the internetwork, duplicating one or more packets from the plurality of one or more flows, and measuring the one or more duplicated packets;

Serving as a proxy hop for a second plurality of one or more flows, and measuring the second plurality of one or more flows; and

Encoding material within a third plurality of one or more flows, causing a fourth plurality of one or more flows to be generated, wherein the third plurality of one or more flows traverses a first path of the internetwork, and the fourth plurality of one or more flows traverse a second path of the internetwork, wherein at least a portion of the first path of the internetwork and at least a portion of the second path of the internetwork are equal, and measuring a subset of the fourth plurality of one or more flows;

Calculating at least one performance metric (measuring round trip time) for the subset of flows in the at least a portion of the internetwork, the at least one performance at least partly determined from the measured performance characteristics (The metrics reporting process provides data that can be used to calculate useful statistical measurements. In one embodiment, the metrics reporting process is part of the state processing that is carried out from time to time according to the state, and in another embodiment, the metrics reporting process carried out from time to time by a microprocessor having access to flow records. Preferably, the metrics reporting process provides base metrics and the final QOS metrics calculations are carried out by the host

computer 1504. In addition to keeping the real time state processing simple, the partitioning of the tasks in this way provides metrics that are scalable. For example, the base metrics from two intervals may be combined to metrics for larger intervals).

However, VanDervort is silent to disclosing in response to calculating the at least one performance metric, rearchitecting the internetwork to optimize one or more of the least one performance metric, rearchitecting the internetwork including at least one of:
Altering a plurality of one or more routing tables in the internetwork, wherein the plurality of one or more routing tables including at least one of: network-layer routing tables, layer 3 routing tables, IP routing tables, layer 2 forwarding table, and MPLS forwarding tables;
Redirecting the subset of flows to a second internetwork coupled to the internetwork at one or more Points of Presence (PoP); and
Affecting forwarding decisions of the subset of flows, by imposing one or more of: NAT, GRE, and tunneling techniques other than GRE.

Gaddis et al. disclose calculating ([0070], calculating) at least one performance metric for the subset of flows (traffic flows) in the at least a portion of the internetwork, the at least one performance at least partly determined from the measured performance characteristics ([0071] [0072]).; comprising:
in response to calculating the at least one performance metric, rearchitecting the internetwork to optimize one or more of the least one performance metric, rearchitecting the internetwork including at least one of:

Altering a plurality of one or more routing tables ([0056], [0059], routing table, [0070], [0071], [0072]) in the internetwork, wherein the plurality of one or more routing tables including at least one of: network-layer routing tables, layer 3 routing tables, IP routing tables, layer 2 forwarding table, and MPLS forwarding tables;

Redirecting the subset of flows to a second internetwork coupled to the internetwork at one or more Points of Presence (PoP); and

Affecting forwarding decisions of the subset of flows, by imposing one or more of: NAT, GRE, and tunneling techniques other than GRE.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Dietz with the teaching of Gaddis to calculate the at least one performance metric, rearchitecting the internetwork to optimize one or more of the least one performance metric, rearchitecting the internetwork including at least one of: Altering a plurality of one or more routing tables in the internetwork, wherein the plurality of one or more routing tables including at least one of: network-layer routing tables, layer 3 routing tables, IP routing tables, layer 2 forwarding table, and MPLS forwarding tables; Redirecting the subset of flows to a second internetwork coupled to the internetwork at one or more Points of Presence (PoP); and affecting forwarding decisions of the subset of flows, by imposing one or more of: NAT, GRE, and tunneling techniques other than GRE in order to dynamically determine regional address locations for best exit routing based route selection preferencing.

5. In the claim 78, Dietz discloses a system of optimizing traffic in an network (see abstract, optimize network traffic flow, the system comprising:

Selecting a subset of flows in the internetwork for monitoring, wherein the subset of flows includes one of one flow, some flows, and all flows; measuring performance characteristics of the subset of flows in at least a portion of the internetwork, the performance characteristic including one or more of: a plurality of one or more routing trip measurements (col.4, lines 15-30, the statistical measures are used to determine metrics related to the flow) for each of the subset of flow and a plurality of one or more one-way measurement for each of the subset of flows, the measuring performance characteristics including one or more of: launching a first plurality of one or more packets, and measuring the first plurality of one or more packets (col.4, lines 15-30, quality or service metrics, col. 8, lines 53-55, col. 7, lines 60-62);

Measuring a second plurality of one or more packets in the internetwork, wherein the second plurality of one or more packet were already launched;

Monitoring a first plurality of one or more flows in the internetwork, duplicating one or more packets from the plurality of one or more flows, and measuring the one or more duplicated packets;

Serving as a proxy hop for a second plurality of one or more flows, and measuring the second plurality of one or more flows; and

Encoding material within a third plurality of one or more flows, causing a fourth plurality of one or more flows to be generated, wherein the third plurality of one or more flows traverses a first path of the internetwork, and the fourth plurality of one or more flows traverse a second path of the internetwork, wherein at least a portion of the first path of

the internetwork and at least a portion of the second path of the internetwork are equal, and measuring a subset of the fourth plurality of one or more flows;

Calculating at least one performance metric (measuring round trip time) for the subset of flows in the at least a portion of the internetwork, the at least one performance at least partly determined from the measured performance characteristics (The metrics reporting process provides data that can be used to calculate useful statistical measurements. In one embodiment, the metrics reporting process is part of the state processing that is carried out from time to time according to the state, and in another embodiment, the metrics reporting process carried out from time to time by a microprocessor having access to flow records. Preferably, the metrics reporting process provides base metrics and the final QOS metrics calculations are carried out by the host computer 1504. In addition to keeping the real time state processing simple, the partitioning of the tasks in this way provides metrics that are scalable. For example, the base metrics from two intervals may be combined to metrics for larger intervals).

However, Dietz is silent to disclosing in response to calculating the at least one performance metric, affecting the routing of the subset of flows by altering a plurality of one or more DNS entries in the internetwork.

Gaddis et al. disclose in response to calculating the at least one performance metric, affecting (updating) the routing of the subset of flows by altering a plurality of one or more DNS entries in the internetwork ([0056], [0059], routing table, [0070], [0071], [0072]).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Dietz with the teaching of Gaddis to calculate the at least one performance metric, affecting the routing of the subset of flows by altering a plurality of one or more DNS entries in the internetwork in order to dynamically determine regional address locations for best exit routing based route selection preferencing.

6. In the claim 2, Gaddis et al. disclose wherein he plurality of one or more routing tables includes network-layer routing tables ([0056], routing tables).

7. In the claim 3, Gaddis et al. disclose wherein the plurality of one or more routing tables includes layer 3 routing tables ([0056], routing tables).

8. In the claim 4, Gaddis et al. disclose wherein the plurality of one or more routing tables includes IP routing tables ([0056], routing information tables).

9. In the claim 5, Gaddis et al. disclose wherein the plurality of one or more routing tables includes layer 2 routing tables ([0056], routing information table).

10. In the claim 7, Dietz discloses wherein the performance characteristics include the plurality of one or more round trip measurements (abstract, col. 12, lines 62-67).

11. In the claim 8, Dietz discloses wherein the performance characteristics includes the plurality of one or more-way measurements (abstract, col. 12, lines 60-67).

12. In the claim 9, Dietz discloses the one or more of the at least one performance metric to be optimized quantifies path performance of the subset of flows (see abstract, optimize network traffic flow,col. 11, lines 54-57).

13. In the claim 10, Gaddis et al. disclose wherein the one or more of the least one performance metric characterizes a quality of a network application ([0059], [0060]).

14. In the claim 11, Gaddis et al. disclose the application includes http ([0059] [0060]).

15. In the claim 12, Dietz et al. disclose the application includes http (Not only should all the packets be detected and analyzed, but for each of these packets the network monitor should determine the protocol (e.g., http, ftp, H.323, VPN, etc.), the application/use within the protocol (e.g., voice, video, data, real-time data, etc.), and an end user's pattern of use within each application or the application context (e.g., options selected, service delivered, duration, time of day, data requested, etc.).

16. In the claim 13, Dietz et al. disclose the application includes ftp (Not only should all the packets be detected and analyzed, but for each of these packets the network monitor should determine the protocol (e.g., http, ftp, H.323, VPN, etc.), the application/use within the protocol (e.g., voice, video, data, real-time data, etc.).

17. In the claim 14, Dietz et al. disclose the application includes voice (Not only should all the packets be detected and analyzed, but for each of these packets the network monitor should determine the protocol (e.g., http, ftp, H.323, VPN, etc.), the application/use within the protocol (e.g., voice, video, data, real-time data, etc.).

18. In the claim 15, Dietz et al. disclose the application include video (Not only should all the packets be detected and analyzed, but for each of these packets the network monitor should determine the protocol (e.g., http, ftp, H.323, VPN, etc.), the application/use within the protocol (e.g., voice, video, data, real-time data, etc.).

19. In the claim 16, Dietz et al. disclose wherein one or more of the at least one performance metric quantifies one or more of: overall usage of the at least the portion of the internetwork, absolute individual network link usage in the at least the portion of the internetwork, relative individual network link usage in the at least the portion of the internetwork, and link usage cost in the at least the portion of the internetwork (see col. 11, lines 54-57, col.12, lines 62-67, col. 17, lines 55-60, lines 40-45).

20. In the claim 17, Dietz et al. discloses wherein the subset of flows include at least a first sub-plurality of one or more flows, and a second sub-plurality of one or more flows, and the first sub-plurality of one or more flows uses at least a first measured performance characteristic, and the second sub-plurality of one or more flows uses at least a second measured performance characteristic (see col. 17, lines 35-40).

21. In the claim 18, Gaddis et al. disclose the one or more of the at least one performance metric quantifies geographic distance covered by the subset of flows in the internetwork ([0008] [0010], geographic, distances).

22. In the claim 19, Gaddiz et al. disclose the selection of the subset of flows is use-based in the at least the portion of the internetwork (see [0056]).

23. In the claim 20, Gaddis et al. disclose wherein the internetwork comprises an autonomous sub-system of a larger network (see figure 6, [0056] [0057]).

24. In the claim 21, Gaddis et al. disclose the larger network is internet ([0005], internet).

25. In the claim 22, Gaddis et al. disclose the internetwork is a BGP autonomous system of a larger network (see [0005], BGP, figure 6).

26. In the claim 23, Gaddis et al. disclose the internetwork comprises an autonomous system of a larger network (see [0005]).

27. In the claim 24, claim 24 is rejected the same reason of claim 21.

28. In the claim 25, claim 25 is rejected the same reason of claim 22.

29. In the claim 26, Gaddis et al. disclose the internetwork comprises an overlay network (see [0005], figure 6).

30. In the claim 27, Gaddis et al. disclose the internetwork comprises a plurality of one or more networks, the plurality of one or more networks coupled together, wherein the plurality of one or more network include one or more of local-area networks, metropolitan-area networks, and wide-area networks (see figure 4, [0068] [0070]).

31. In the claim 28, Dietz et al. disclose wherein the measuring performance characteristics includes launching a first plurality of one or more packets, and measuring the first plurality of one or more packets (see col. 17, lines 55-60, lines 35-45).

32. In the claim 29, Dietz et al. disclose wherein the measuring performance characteristics includes launching a first plurality of one or more round trip packets, and measuring the first plurality of one or more round trip packets, such that the plurality of one or more round trip measurements include round trip measurements for the launched packets (see col. 17, lines 55-60, lines 35-45).

33. In the claim 30, Dietz et al. disclose the first plurality of one or more round trip packets include traceout ICMP packets (see col. 17, lines 55-60, lines 35-45).

34. In the claim 31, Dietz et al. disclose the first plurality of one or more round trip packets include ping ICMP packets (see col. 17, lines 55-60, lines 35-45).

35. In the claim 32, Dietz et al. disclose the first plurality of one or more round trip packets include telnet packets (see col. 17, lines 55-60, lines 35-45).

36. In the claim 33, Dietz et al. disclose the first plurality of one or more round trip packets include TCP packets from an empty TCP transaction (see col. 17, lines 55-60, lines 35-45).

37. In the claim 34, Dietz et al. disclose the first plurality of one or more round trip packets include http packets (see col. 17, lines 55-60, lines 35-45).

38. In the claim 35, claim 35 is rejected the same reasons of claim 29 above.

39. In the claim 36, claim 36 is rejected the same reasons of claim 28 above.

40. In the claim 37, Dietz et al. disclose wherein round trip measurements include one or more of round trip delay, round trip jitter, round trip loss, round trip available bandwidth, and round trip total bandwidth (There also is a need to determine metrics related to a sequence of events. A good example is relative jitter. Measuring the time from the end of one packet in one direction to another packet with the same signature in the same direction collects data that relates normal jitter. This type of jitter metric is good for measuring broad signal quality in a packet network).

41. In the claim 38, Gaddis et al. disclose wherein round-trip measurement include round-trip delay (see [0177]).

42. In the claim 39, Dietz et al. disclose wherein round trip measurement include round trip jitter (There also is a need to determine metrics related to a sequence of

events. A good example is relative jitter. Measuring the time from the end of one packet in one direction to another packet with the same signature in the same direction collects data that relates normal jitter. This type of jitter metric is good for measuring broad signal quality in a packet network).

43. In the claim 40, Dietz et al. disclose wherein round trip measurement include round trip loss (see col. 17, lines 40-60).

44. In the claim 41, Dietz et al. disclose wherein round trip measurement include round trip available bandwidth (see col. 4, lines 15-30).

45. In the claim 42, Dietz et al. discloses wherein round trip measurement include round trip available bandwidth (see col. 4, lines 15-30).

46. In the claim 43, claim 43 is rejected the same reasons of claim 37 above.

47. In the claim 44, claim 44 is rejected the same reasons of claim 38 above.

48. In the claim 45, claim 45 is rejected the same reason of claim 39 above.

49. In the claim 46, Gaddis et al. discloses wherein one way measurements include one way loss (see [0100], loss traffic).

50. In the claim 47, Gaddis et al. discloses wherein one way measurements include one way available bandwidth (see [0007], [0008], bandwidth).

51. In the claim 48, Gaddis et al. discloses wherein one way measurement include one way total bandwidth (see [0007] [0008]),

52. In the claim 50, Dietz et al. disclose wherein the altering of the plurality of one or more routing tables is applied automatically (see col. 4, lines 15-30).

53. In the claim 51, Dietz et al. disclose wherein the altering of the plurality of one or more routing tables includes configuring a plurality of one or more routers, wherein the configuring the plurality of one or more routers statistically alter the routing of flows (see col. 4, lines 15-30).

54. In the claim 52, Gaddis et al. discloses the configuring a plurality of one or more routers includes route maps (see [0056]).

55. In the claim 53, Gaddis et al. disclose the configuring a plurality of one or more routers includes static route statements ([0056]).

56. In the claim 54, Gaddis et al. disclose wherein, the altering of the plurality of one or more routing tables includes configuring a plurality of one or more routers, wherein the configuring the plurality of one or more routers adjust the processing of dynamic routing updates ([0056]).

57. In the claim 55, Gaddis et al. disclose wherein, the altering of the plurality of one or more routing tables includes configuring a plurality of one or more routers, wherein the configuring the plurality of one or more routers adjust the processing of dynamic routing updates ([0056]).

58. In the claim 56, Gaddis et al. disclose wherein the altering of the plurality of one or more routing tables is performed at least partly by a plurality of one or more dynamic routing protocols (see [0087]).

59. In the claim 57, Gaddis et al. disclose wherein the plurality of one or more dynamic routing protocol includes BGP ([0087]).

60. In the claim 58, Gaddis et al. discloses wherein the plurality of one or more dynamic routing protocols includes a plurality of one or more IGP routing protocol (see [0087] [0088] [0089]).

61. In the claim 59, Dietz et al. disclose wherein the plurality of one or more IGP routing protocol includes OSPF (see col. 17, lines 35-60).

62. In the claim 60, Gaddis et al. disclose wherein the altering of the plurality of one or more routing table are applied by a user ([0087] [0088] [0089]).

63. In the claim 61, Gaddis et al. disclose wherein rearchitecturing of the internetwork includes redirecting the subset of flows to a second internetwork coupled to the internetwork at one or more Points of Presence (see figure 4, [0087] [0088] [0089]).

64. In the claim 62, Dietz et al. wherein the redirecting of the subset of flows is at least partly across an exit point traversed by at least a portion of the subset of flows from the internetwork, wherein the at least one performance metric is optimized (see col. 17, lines 35-60).

65. In the claim 63, Dietz et al. disclose wherein the optimizing of the performance metric includes: calculating at least one performance metric for a plurality one or more paths in the at least the portion of the internetwork; and at least partly responsive to the calculating of the at least one performance metric, selecting a path in the at least the portion of the internetwork from the plurality of one or more paths (see col. 17, lines 35-60).

66. In the claim 64, Gaddis et al. disclose wherein the selected path is a direct path ([0087] [0088] [0089]).

67. In the claim 65, Gaddis et al. disclose wherein the selected path is indirect path ([0087] [0088] [0089]).

68. In the claim 6, Gaddis et al. discloses wherein the optimizing of the performance metric includes: selecting a plurality of one or more exits points; and selecting a plurality of one or more paths to reach the plurality of one or more exit points in the at least the portion of the internetwork ([0087] [0088] [0089]).

69. In the claim 67, Gaddis et al. discloses wherein the steps of selecting the plurality of one or more exit point and selecting the plurality of one or more paths are performed separately ([0087] [0088] [0089]).

70. In the claim 68, Gaddis et al. disclose wherein the steps of selecting the plurality of one or more exit points and selecting the plurality of one or more paths are performed together ([0087] [0088] [0089]).

71. In the claim 69, Dietz et al. disclose wherein measuring performance characteristics includes monitoring a first plurality of one or more flows in the internetwork, duplicating one or more packets from the plurality of one or more flows, and measuring the one or more duplicated packets (see col. 17, lines 35-60).

72. In the claim 70, Dietz et al. disclose wherein the measuring performance characteristics includes serving as a proxy hop for a second plurality of one or more flows, and measuring the second plurality of one or more flows (col. 17, lines 35-60).

73. In the claim 72, Dietz et al. disclose wherein the measuring performance characteristics is done at least partly using flow information export (col. 17, lines 35-60).

74. In the claim 73, Dietz et al. disclose wherein the measuring performance characteristics is done using RMON II (col. 17, lines 35-60).

75. In the claim 74, Dietz et al. disclose wherein the measuring performance characteristics is provided by a source external to the subset of flows (col. 17, lines 35-60).

76. In the claim 77, Gaddis et al. disclose where the rearchitecturing of the internetwork is performed within the device (see [0087] [0088] [0089], figure 4).

77. In the claim 79, Dietz et al. disclose where the affecting the routing of the subset of flows is performed within the device (see col. 17, lines 35-60).

Claim Rejections - 35 USC § 103

78. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

79. Claims, 6, 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined system (Dietz – Gaddis) in view of Mauger (U.S.Patent No. 6,522,627 B1).

In the claims 6, 49, the combined system (Dietz – Gaddis) disclose the limitations of claim 1 above.

However, the combined system (Dietz – Gaddis) are silent to disclosing wherein the plurality of one or more routing table includes MPLS forwarding tables.

Mauger discloses wherein the plurality of one or more routing table includes MPLS forwarding tables (see col. 4, lines 30-35).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined system (Dietz – Gaddis) with the teaching of Mauger to provide wherein the plurality of one or more routing table includes MPLS forwarding tables in order to provide end to end connectivity without the need for individual packet routing.

Allowable Subject Matter

80. Claim 71 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHUONG T. HO whose telephone number is (571) 272-3133. The examiner can normally be reached on 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

02/03/07

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600